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FACSIMILE TRANSMITTAL SHEET

Deliver To: Examiner Mary J. Steelman (571) 272-3704

Company: U.S. Patent and Trademark Office

Facsimile: (571) 273-3704   Date: April 13, 2005

From: Thinh V. Nguyen   Operator: Tu Nguyen

Our Reference No.: 42P11280 // 42P10798   Your Reference No.: 09/823,105 // 09/822,090

Number of Pages: 4
(Including Cover Sheet)

Group 2191

Examiner Steelman,

Please see attached letter.

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Dear Examiner Steelman,

Below are the answers to your questions and our revised claim amendments:

For 09/823,105: Static/ Semi-static compilation:

1) Yes, the invention generates instrumentation code (#510) which includes generating code to execute a field watch sequence (#520). It also provides guard to guard execution of instrumentation code if field watch is not activated. Note that guarding here means to protect or prevent. We do not want to use "enable" or "disable" which could mean something else. Furthermore, the guard is to guard execution if field watch is not activated. The focus is to make sure instrumentation code is guarded from execution if field watch is not activated. When field watch is activated, although instrumentation code may be executed, but we do not want to claim this.

Regarding [0047], the field watch sequence referred to includes the sequence to mimic stack operands. For the static model, this sequence is always executed. Please refer to lines 3-5 of Figure 7 and [0061]. For the semi-static model, the execution of this field watch sequence is performed when the field watch is activated. Please refer to lines 14, 24, 19, and 23 of Figure 8 and [0066].

The code to execute the field watch sequence is always generated, but its placement is such that it is always executed (for static model) or only executed when the field watch is activated (for semi static model).

2) Comments to your proposed amendments:

a) We prefer NOT to use preamble and the word "whereby".

b) As indicated above, the limitation "providing a guard to the instrumentation code, to enable execution if the field watch is activated, or to disable execution of the instrumentation code if the field watch is not activated" is not accurate. First, we do not want to use the word "enable/ disable" which may mean something differently and may not have support in the specification. Second, we just want to claim the portion "guarding execution of the instrumentation code if the field watch is not activated" and leaving out the condition "if the field watch is activated".

c) The passing of an argument is part of the execution of an event hook function. It is incorrect to recite "passing argument" and then follow by "execution of an event hook function"

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We propose the following amendment:

    1.   (currently amended) A method comprising:

compiling a function including a byte code sequence having a field byte code that accesses or modifies a field, the compiled function providing a native code and occupying a code space;

    generating an instrumentation code corresponding to a field watch of the <u>accessed or modified</u> field, <u>the instrumentation code including code for executing an event hook function</u>;

    guarding execution of the instrumentation code if the field watch is not activated; and

    inserting the instrumentation code to the native code.

    8.   (currently amended) The method of claim 2 wherein executing the field watch sequence comprises:

    saving live global state, the live global state corresponding to an active register;

    executing ~~an~~ <u>the</u> event hook function for an event corresponding to the field watch; and

    restoring the live global state.

For 09/822,090: Dynamic recompilation.

The same comments for the static/ semi-static models apply.
The field watch sequence is not executed until the field watch is activated.
We propose the following amendments:

    1.   (currently amended) A method comprising:

    re-compiling a function when a field watch for a field is activated, the function including a byte code sequence having a field byte code that accesses or modifies the field, the recompiled function providing a native code and occupying a code space;

    generating an instrumentation code corresponding to the field watch of the field, the instrumentation code including code for executing an event hook function; and

    inserting the instrumentation code to the native code.

    4.   (currently amended) The method of claim 3 wherein executing the field watch sequence comprises:

    saving live global state, the live global state corresponding to an active register;

    executing an the event hook function for an event corresponding to the field watch; and

    restoring the live global state.

Please also make the following amendments to the specification:

change "filed" to "field" in [0039] (three places, lines 3, 5, and 6) and in [0071] (line 1).

Thank you for your prompt attention on this matter. If you have any questions, please do not hesitate to contact me.

Regards,

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Group 2191

Examiner Steelman,

Please let me know your decision before you leave.

Thank you.
Thinh V. Nguyen

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Dear Examiner Steelman,

I reviewed the specification and could not find clear support for the language "generating a guard code to guard execution..". Regarding the "instrumentation code including/comprising a guard code..", this language is incorrect because the guarding is done outside the instrumentation code.

I believe that the amended claim language is clear enough. I hope the following explanation would help your Supervisor to understand the invention and the reason for the claim language to be written as it is.

"Guarding execution of the instrumentation code .." can be done by several methods:

In the first method, by comparing a flag with a watch value (See specification [0048]). In this method, it may be possible to think of "generating a guard code to guard execution.." and the "guard code" here most likely contains the "compare" (cmp) instruction (e.g., line 6 in Figure 7). However, there is no clear support in the specification to disclose the specific operation of generating such a guard code.

In the second method, guarding can be done by updating the offset of a jump instruction to a stub or replacing a No-op sequence with a jump instruction (See specification [0048]). In this method, "guarding" here is an action. This action is either updating the offset of a jump instruction or replacing a no-op with a jump instruction. Therefore, it is not appropriate to write it as "generating a guard code to guard.." because at least "updating the offset of a jump instruction" is not generating a guard code.

I believe that adding the limitation "generating a guard code" is unnecessary. Since a claim is interpreted consistent with the specification, the above support in the specification should provide clarity to the meaning of the claim. Even without the specification, the claim as it stands should be clear enough because there is no ambiguity regarding "guarding execution of the instrumentation.."

I hope the above explanation helps you and/or your supervisor to understand the invention and the claims. I have reviewed the claims carefully and believe that our proposed amendment would clarify the claim language and clearly distinguish from the prior art references. If the case is allowable, please proceed with Examiner's amendments for all the independent claims (1, 16, and 31) and the corresponding dependent claims and send out notices of allowability at your earliest convenience. If, however, you and/or supervisor do not agree, please re-open prosecution and issue an Office Action so that we can respond accordingly such as request for reinstatement of appeal and file a supplemental Appeal Brief.

Thank you very much for your time.

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